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(54) Method of fitting workrooms or lecturerooms with a plurality of benches and a bench for carrying out said method

(57) Provided for the quick and easy outfitting of a room e.g. a workroom or lectureroom, with benches is a bench 10 which is mobile by means of castors 33, which is substantially C-shaped when viewed end on and which comprises a services panel 20, mounted above a worktop 16 of the bench 10, having at its rear inlet connections for the supply of electrical current to sockets arranged at its front and outlet connections 28 for the supply of electricity to further like benches with which the bench 10 is arranged.

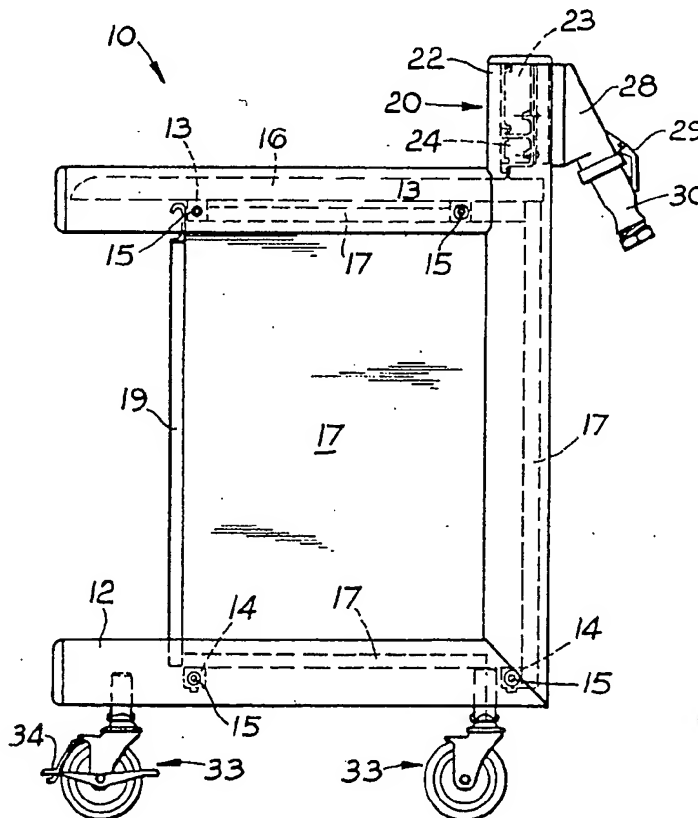
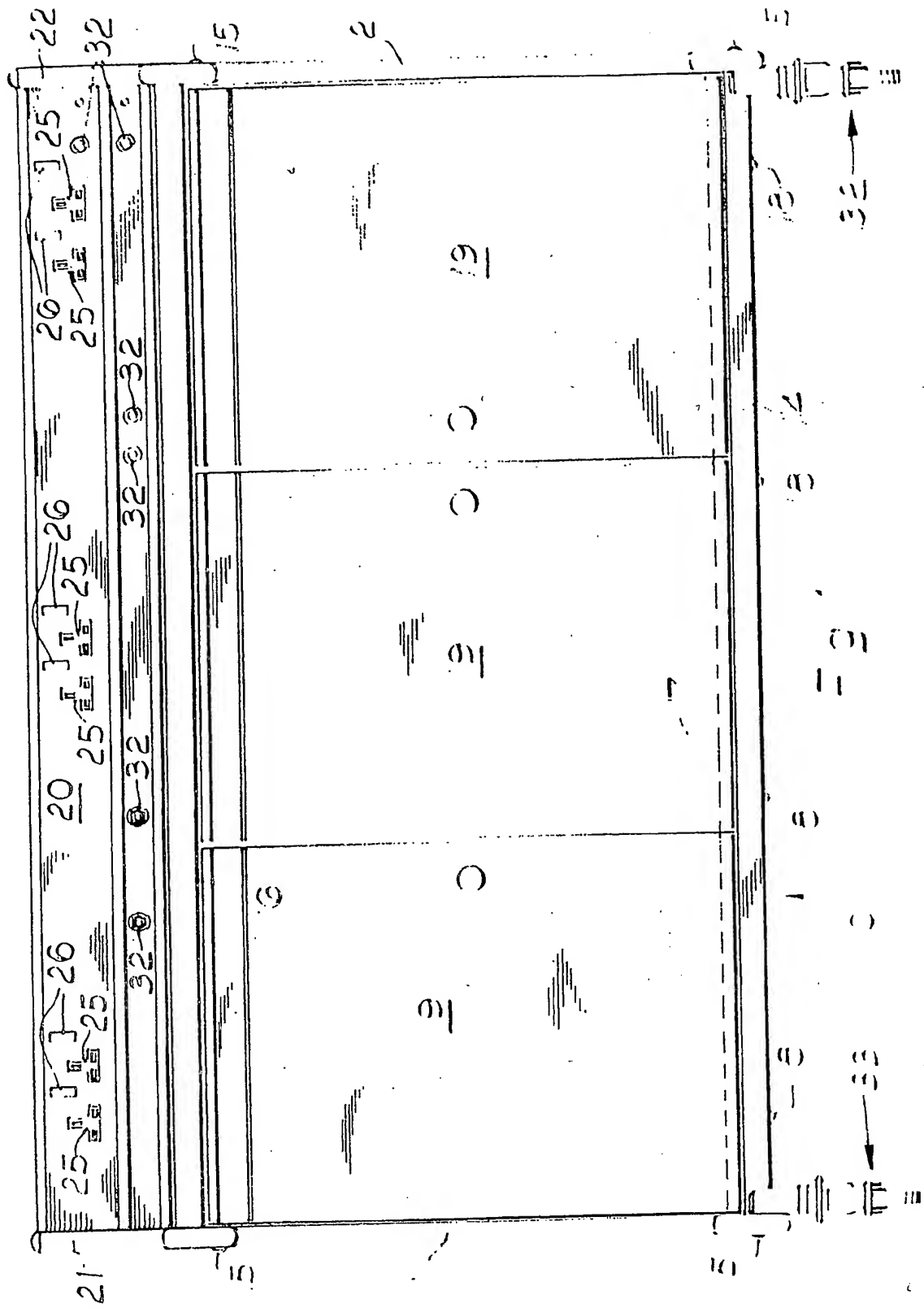


Fig. 2

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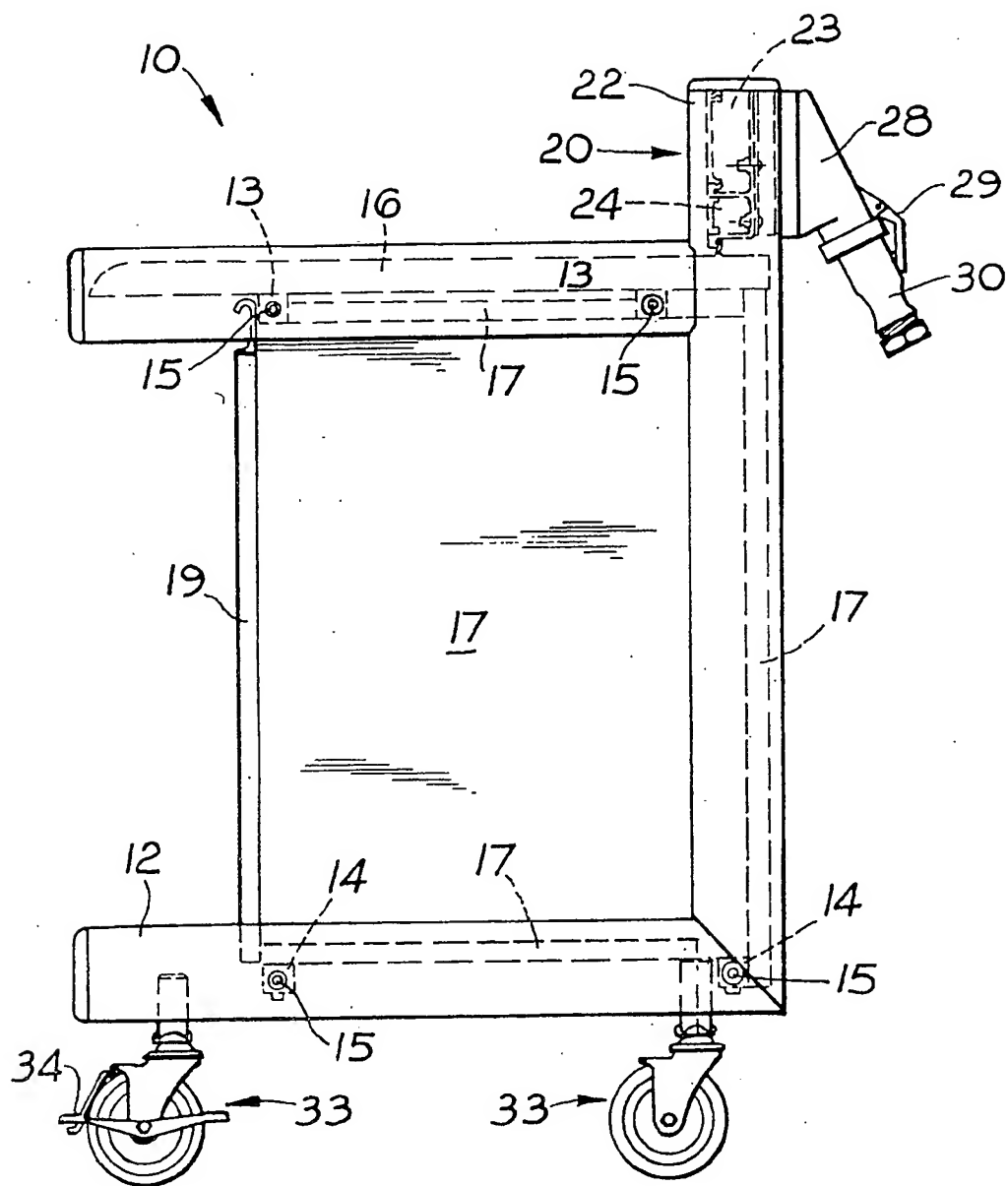
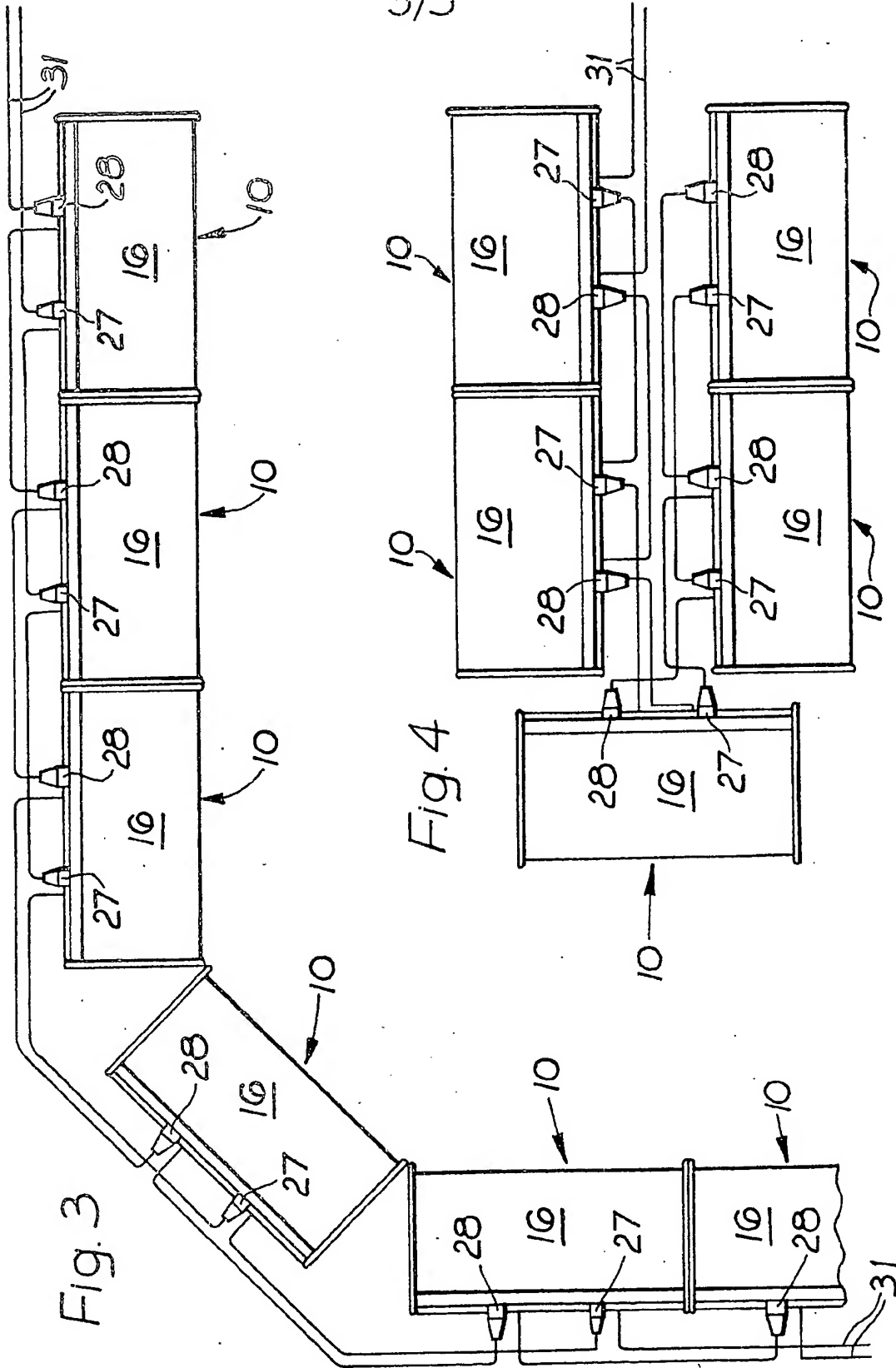


Fig. 2

3/3



## SPECIFICATION

**Method of fitting workrooms or lecture-rooms with a plurality of benches and a bench for carrying out said method**

This invention concerns a method of fitting workrooms of lecture-rooms with a plurality of benches and to a bench for carrying out said method.

The type of room with which the present invention is particularly concerned is usually purpose built either for the teaching of scientific or technological subjects or for the testing or assembly of, for example, electronic components. It is to be noted that the term "room" as used in describing the present invention is broad enough to cover mobile teaching units contained in buses, vans or trailers and industrial workshops.

Benches e.g. work benches, of the aforesaid type of room are normally permanently connected to the floor and/or walls of the room and to the various amenities of the room such as the electricity, gas and water supplies. It is therefore difficult if not impossible easily to make alterations to the number or positioning of the benches within the room to meet changes in teaching or working methods. Furthermore constructionally rooms of this type are difficult, time consuming and expensive to fit out. Usually they can only be used for one particular purpose and therefore may frequently be left unused for the greater part of the working day.

An object of the present invention is to be able easily and quickly to fit out a room with benches, which can be used as work benches or teaching benches, without the need to fix the benches permanently within the room and so that any or all of the benches can be easily and quickly rearranged within the room or removed from the room altogether.

With this object in view the present invention provides a method of fitting workrooms or lecture-rooms with a plurality of benches, comprising the steps of interconnecting the benches with one another by means of inlet and outlet connections provided on each bench and providing at least one of the benches with amenity supply means or connecting it to the standard amenity supply outlets for the room to enable the subsequently connected benches to be in communication with said amenities.

The present invention further provides a bench for carrying out the aforesaid method wherein said bench is provided with inlet and outlet connections for connection of the bench to at least one of the amenity supply outlets for the room, or to amenity supply means contained within the bench, and for connection with corresponding inlet and outlet connections of similar benches so as to communicate said amenities thereto.

The invention will be described further, by way of example, with reference to the accompanying drawings in which:—

Figure 1 is a front elevation of a preferred embodiment of the bench of the present invention;

Figure 2 is a side elevation of the bench of Fig. 1;

Figure 3 illustrates in plan one convenient arrangement of a number of the benches of Figs. 1 and 2 within a room; and

Figure 4 is a view similar to that of Fig. 3 but of another convenient arrangement.

Referring firstly to Figs. 1 and 2, the preferred bench 10 of the invention comprises a metal framework consisting of two substantially C-shaped tubular pieces 11 and 12 forming respective ends of the bench 10 interconnected by two pairs of laterally extending flat elongate tubular bars 13 and 14, respectively secured at the top and the base of the C-shaped pieces 11, 12 by, for example, rivets 15. At the top of the C-shaped pieces 11, 12 there is provided a flat rectangular worktop 16, for example, of laminated wood or of metal. Below the worktop 16 is a rectangular box-like cupboard composed of panels 17 secured to the metal framework by means, for example, of screws 18. The panels 17 of the cupboard are made of laminated wood (but, of course, they may also be made of metal or any other desired material). The cupboard has three doors 19, of the same materials as the panels 17, and may be used to contain technical equipment for use with the bench 10.

Above the worktop 16 the bench 10 is provided with a services panel 20. The services panel 20 is provided between respective upwardly projecting extensions 21, 22 of each C-shaped pieces 11, 12, integral with and projecting upwardly from respective C-shaped pieces 11, 12. The services panel 20 is in the form of an oblong box-like housing, of substantially rectangular cross-section, comprising two separate, longitudinally extending chambers 23, 24 (Fig. 2).

At its front i.e. that face thereof adjacent the worktop 16, the services panel 20 is provided with a number of electrical outlet sockets 25 for supplying e.g. 240 volts AC and/or 12 volts DC, to persons using the bench 10. Each socket 25 is associated with its own on/off switch 26. The services are capable of being screened from each other. At its rear, the services panel 20 is provided with at least one inlet connection 27 and one outlet connection 28 (Figs. 2, 3 and 4) for the input and output of electrical current. The inlet and outlet connections 27, 28 are box-like sockets and protrude beyond the surface of the rear of the panel 20. The inlet and outlet connections 27, 28 can receive by means of spring-like clips 29 thereon correspondingly shaped plugs 30 to which are

connected flexible cables or tubes 31 (Figs. 3 and 4). As an aid to the mobility of the bench 10, the inlet plugs 30 may be parked in the outlet sockets.

- 5 The bench 10 can also be connected to or have stored therein additional amenities such as compressed air or high pressure water and the services panel 20 is also provided with inlet and outlet connections 32 for the additional amenities. A compressed air container can be stored within the cupboard.

To make the bench 10 mobile the bottom rail of each of the C-shaped pieces 11, 12 of the metal frame-work is provided with castors 33, one of which is braked by means of brake 34. These castors 33 can easily be removed if it is desired to fix the bench 10 in one particular spot.

- 10 In order to convert an ordinary room into a technological workroom or lecture room it is simply a matter of wheeling a number of the benches 10 into the room and positioning them as desired. Fig. 3 illustrates part of a corner suite of benches 10 and Fig. 4 illustrates an island suite of benches i.e. the benches are arranged in the centre of the room. The room need only have two 13 amp electrical sockets. At least one of the benches 10 is connected to the mains supply. The other benches 10 are then successively interconnected with one another by means of the inlet and outlet connections 27, 28. The number of benches 10 which can be interconnected within the room is only limited by the drain on the amenities, such as the electrical wiring system, of the room. If necessary the benches 10 can be arranged in separate groups with at least one bench 10 of each group connected to mains supply. An appropriate electrical device (not shown) can be provided in the cupboard of said one bench 10 (and if necessary one or more of the other benches) for the conversion of 240 volts AC supply to a low voltage DC supply.

- 45 The benches 10 can just as easily be fitted in a mobile teaching unit contained in motor vehicles and motor trailers.

It will be appreciated from the foregoing that with the method and bench of the present invention any suitable room in a building or the inside of a motor vehicle or motor trailer can, at minimum expenditure and with no structural alterations, be converted into a room for the teaching of technological subjects or for the production of high technology products. Furthermore, the number of benches in the room can be reduced or increased, subject only to the size of the room, as desired or the benches can be transferred to another location with minimum effort and disturbance.

#### CLAIMS

1. A method of fitting workrooms or lecture rooms with a plurality of benches, com-

prising the steps of interconnecting the benches with one another by means of inlet and outlet connections provided on each bench and providing at least one of the benches with amenity supply means or connecting it to the standard amenity supply outlets for the room to enable the subsequently connected benches to be in communication with said amenities.

2. A bench for use in carrying out the method as claimed in claim 1 wherein said bench is provided with inlet and outlet connections for connection of the bench to at least one of the amenity supply outlets for the room, or to amenity supply means or to amenity supply means contained within the bench; and for connection with corresponding inlet and outlet connections of similar benches so as to communicate said amenities thereto.

3. A bench as claimed in claim 2 wherein said bench comprises a metal framework consisting of two substantially C-shaped tubular pieces forming respective ends of the bench interconnected by two pairs of laterally extending flat elongate tubular bars, respectively secured at the top and base of the C-shaped pieces.

4. A bench as claimed in claim 3 wherein at the top of the C-shaped pieces there is provided a flat rectangular worktop.

5. A bench as claimed in claim 4 wherein secured to the framework below the worktop is a rectangular box-like cupboard composed of a number of panels.

6. A bench as claimed in any one of claims 2 to 5 wherein provided above the bench is a services panel.

7. A bench as claimed in claim 6 wherein the services panel is provided between respective upwardly projecting extensions of each C-shaped piece, integral with and projecting upwardly from the respective C-shaped pieces.

8. A bench as claimed in claim 6 or 7 wherein the services panel is in the form of an oblong box-like housing, of substantially rectangular cross-section, comprising two separate, longitudinally extending chambers.

9. A bench as claimed in any one of claims 6 to 8 wherein at its face facing the worktop, the services panel is provided with a number of electrical outlet sockets and inlet and outlet connections for additional amenities such as compressed air and high pressure water.

10. A bench as claimed in any one of claims 6 to 9 wherein at its rear, the services panel is provided with at least one inlet connection and one outlet connection for the input and output of electrical current.

11. A bench as claimed in claim 10 wherein the inlet and outlet connections are box-like sockets and protrude beyond the surface of the rear of the panel.

12. A bench as claimed in claim 11 wherein the sockets are provided with spring-

like clips in order to be able to receive correspondingly shaped plugs to which are connected flexible cables or tubes.

13. A bench substantially as hereinbefore  
5 described with reference to and as illustrated in Figs. 1, 2 and 3, or in Figs. 1, 2 and 4 of the accompanying drawings.

14. An arrangement of the benches of claims 2 to 12 substantially as hereinbefore  
10 described with reference to and as illustrated in Fig. 3 or in Fig. 4, of the accompanying drawings.

15. A method of fitting workrooms or lecturerooms with a plurality of benches substantially as hereinbefore described with reference  
15 to the accompanying drawings.

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